

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P045166PCT BOT/jdo	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/03524	International filing date (day/month/year) 03.04.2003	Priority date (day/month/year) 03.04.2002
International Patent Classification (IPC) or both national classification and IPC B63B21/50		
Applicant SINGLE BUOY MOORINGS INC. et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

- This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability



IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 03.11.2003	Date of completion of this report 23.03.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Moya, E Telephone No. +49 89 2399-2871 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP 03/03524

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

Description, Pages

1-4 as originally filed

Claims, Numbers

1-10 as originally filed

Drawings, Sheets

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/03524**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	1-10
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Point V

1. Closest prior art (US-A-6 003 603) discloses a method and a system for production of liquefied gas (LNG) in an offshore vessel consisting of a tapered rotatable turret buoy that is connectable to an underwater recess in the vessel; the gas transfer takes place via a pipeline surrounded by water.

The subject matter of claim 1 differs therefrom in that the turret is cylindrical and is permanently rotatably attached to the ship.

Art. 33 (2) PCT is met.

2. LNG production systems like the one of the prior art lower the gas temperature by jacketing the transfer pipe. The present application introduces an advantageous improvement in the cooling process previous to liquefaction by means of a cold water reservoir provided at the turret as such, by means of an intermediate water volume between turret and shaft, thereby providing a large volume of refrigerating liquid. This feature is complementary with the use of a water intake pipe that extends below sea level to conduct the cold water to the reservoir.

None of the documents of the prior art hint the combination of a seawater intake pipe that is connected to a circumferential water reservoir around the turret. The combination entails an improved cold water supply.

Article 33 (3) PCT is met.

3. Claims 2-10 are dependent on claim 1.

Other points

1. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P045166PCT MBU	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 03/03524	International filing date (day/month/year) 03/04/2003	(Earliest) Priority Date (day/month/year) 03/04/2002
Applicant SINGLE BUOY MOORINGS INC		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

VESSEL WITH DEEP WATER INTAKE SYSTEM

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/03524

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B63B21/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 B63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 003 603 A (BREIVIK KARE ET AL) 21 December 1999 (1999-12-21) cited in the application the whole document ----	1-10
A	US 5 823 131 A (ETHERIDGE CHARLES O ET AL) 20 October 1998 (1998-10-20) abstract; figures ----	1-10
A	US 6 094 937 A (LILLESUND SIGBJOERN ET AL) 1 August 2000 (2000-08-01) column 6, line 51 - line 61 -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

3 July 2003

Date of mailing of the international search report

22/07/2003

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

EP 03/03524

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6003603	A	21-12-1999	NO 944754 A	10-06-1996
			AU 4273096 A	26-06-1996
			CA 2207042 A1	13-06-1996
			GB 2311981 A , B	15-10-1997
			WO 9617777 A1	13-06-1996
US 5823131	A	20-10-1998	AU 714622 B2	06-01-2000
			AU 5444498 A	29-06-1998
			BR 9713731 A	25-01-2000
			DK 941200 T3	14-04-2003
			EP 0941200 A1	15-09-1999
			NO 992911 A	09-08-1999
			WO 9824686 A1	11-06-1998
US 6094937	A	01-08-2000	NO 301792 B1	08-12-1997
			AU 3363297 A	02-02-1998
			WO 9801335 A1	15-01-1998